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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,656	08/07/2006	Bernd Georgi	EFFE0016UPCT-US	7695

31518 7590 09/22/2008

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EXAMINER	
COSIMANO, EDWARD R	

ART UNIT	PAPER NUMBER
2863	

NOTIFICATION DATE	DELIVERY MODE
09/22/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/586,656	GEORGI ET AL.	
	Examiner	Art Unit	
	Edward R. Cosimano	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-36* is/are pending in the application.

4a) Of the above claim(s) *none* is/are withdrawn from consideration.

5)☒ Claim(s) *19-22,24-28 and 32-35* is/are allowed.

6)☒ Claim(s) *23,29-31 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 July 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/19/06; 1/29/07; 7/2/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. When preparing this Office action the examiner considers the instant application to include:

A) the Oath/Declaration filed on 07 August 2006 which is acceptable to the examiner;

B) the Abstract filed on 19 July 2006 which is acceptable to the examiner;

C) figures 1, 2, 3, 4, 5, 6, 7, 8 & 9 of the set of drawings containing 4 sheets of 9 figures comprising figures 1, 2, 3, 4, 5, 6, 7, 8 & 9 as presented in the set of drawings filed on 19 July 2006 where figures 2, 4, 5 & 7 of the above set of drawings are acceptable to the examiner;

D) the written description as filed on 19 July 2006 and amended on 19 July 2006; and

E) the set of claims as filed on 19 July 2006.

2. Applicant's claim for the benefit of an earlier filing date pursuant to 35 U.S.C. 120, 35 U.S.C. 365(c) and 35 U.S.C. 371 are acknowledged.

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

4. The examiner has considered the prior art cited in the base applications.

5. The drawings filed on 19 July 2006 are objected to because:

A) the drawings fail to comply with 37 CFR 1.84(n,o) because they contain unlabeled depictions of features of the invention that are not readily recognizable from the depicted symbol. Therefore applicant is required to provide suitable descriptive title legends for the features of the invention designated by:

(1) reference legend 3 in figure 1 as a "coordinate measuring device" as consistently described in the description of figure 1 between pages 12-14 and note in particular at least the paragraph located between page 12, line 17, and page 13, line 6, "The measuring arrangement 1, … first coordinate measuring device 3 and a second coordinate measuring device 5. The … objects 8 are, for example balls.";

(2) reference legend 5 in figure 1 as a "coordinate measuring device" as consistently described in the description of figure 1 between pages 12-14 and note in particular at least the paragraph located between page 12, line 17, and page 13, line 6, "The measuring arrangement 1, … first coordinate measuring device 3 and a second coordinate measuring device 5. The … objects 8 are, for example balls.";

(3) reference legend 11 in figure 1 as a "data processing device" as consistently described in the description of figure 1 between pages 12-14 and note in particular at least the paragraph located at page 14, lines 3-13, "The corresponding measured data … data processing device 11 … into the WCS and/or the temperature correction.";

(4) reference legends 16 & 17 in figures 3 & 6 as a "sensor" and a "radiation source", respectively as consistently described in the description of figures 3 & 6 between pages 14-16 and note in particular at least the paragraph located between page 14, line 14, and page 15, line 11, "Figure 2 shows … from a radiation source 17 or measured optically. A sensor device 16 … are also included in the X-ray images.";

(5) reference legends S1, S2, S3, S4, S5, S6, S7, S8, S11, S12, S13 & S14 in figures 8 & 9 with a title legend that clearly indicates the function performed by each of the depicted steps as consistently described in the description of figures 8 & 9 in the paragraphs located between page 18, line 7, and page 22, line 5, "As a start, a workpiece is … measuring devices to take over this function.", for example:

(a) "CONNECTING WORKPIECE TO A PLURALITY OF REFERENCE OBJECTS" for step S0 of figure 8;

(b) "MOVING THE WORKPIECE AND REFERENCE OBJECTS TO A FIRST MEASUREMENT POSITION" for step S1 of figure 8;

(c) "DETERMINING RELATIVE COORDINATES AND ORIENTATION OF THE WORKPIECE AND WORKPIECE

COORDINATE SYSTEM WCS AND REFERENCE OBJECTS AND THE REFERENCE COORDINATE SYSTEM RCS" for step S2 of figure 8;

(d) "MEASURING THE WORKPIECE AND REFERENCE OBJECTS IN THE RCS WITH A FIRST COORDINATE MEASUREMENT DEVICE" for step S3 of figure 8;

(e) "CHANGE THE ORIENTATION AND/OR POSITION OF THE WORKPIECE AND REFERENCE OBJECTS" for step S4 of figure 8;

(f) "DETERMINE THE RCS FOR THE SECOND COORDINATE MEASUREMENT DEVICE" for step S5 of figure 8;

(g) "MEASURING THE WORKPIECE AND REFERENCE OBJECTS IN THE RCS WITH A SECOND COORDINATE MEASUREMENT DEVICE" for step S6 of figure 8;

(h) "STORING RELATIVE COORDINATES AND ORIENTATION OF THE WORKPIECE, WCS, REFERENCE OBJECTS, AND RCS" for step S7 of figure 8;

(i) "DETERMINE A COMMON SET OF COORDINATES FROM THE FIRST SET OF COORDINATES AND THE SECOND SET OF COORDINATES" for step S8 of figure 8;

(j) "DETERMINE RELATIVE COORDINATE INFORMATION" for step S11 of figure 9;

(k) "EVALUATE THE COMMON SET OF COORDINATES" for step S12 of figure 9;

(l) "DATA PROCESSOR FOR FIRST COORDINATE MEASURING DEVICE" for step S13 of figure 9; and

(m) "DATA PROCESSOR FOR SECOND COORDINATE MEASURING DEVICE" for step S14 of figure 9.

B) The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the:

(1) the use of a "third coordinate measuring device" and the data/information produced by the "third coordinate measuring device" as recited in claim 23;

(2) the use of the coordinate measurement devices in order to measurement of the "temperature of the work piece and movable structure" as recited in claims 29-31;

(3) use of the "coefficient of thermal expansion" as recited in claim 30; and

(4) using a temperature senor attached to the moveable structure in order to measure the temperature as recited in claim 31;

must be shown or the feature canceled from the claim. No new matter should be entered.

5.1 Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The disclosure is objected to because of the following informalities:

A) applicant must insert section headings such as those suggested in 37 CFR 1.77(b) in order to clearly delineate which parts of the written description applicant considers to be the "Background of the Invention"; the "Summary of the Invention"; the "Brief Description of the Drawings"; and the "Detailed Description of the Invention".

B) the disclosure lacks a statement of –We claim:--, as required by Office policy as set forth in MPEP 608.01(m).

C) the written description fails to comply with 37 CFR 1.75(d)(1) since the written description fails to describe an invention which includes:

(1) the use of a "third coordinate measuring device" and the data/information produced by the "third coordinate measuring device" as recited in claim 23;

(2) the use of the coordinate measurement devices in order to measurement of the "temperature of the work piece and movable structure" as recited in claims 29-31; and

(3) using a temperature senor attached to the moveable structure in order to measure the temperature as recited in claim 31;

and therefore the claimed subject matter lacks antecedent basis in the written description as required by 37 CFR 1.75(d)(1).

6.1 Appropriate correction is required.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7.1 Claims 23 & 29-31 are rejected under 35 U.S.C. 112, first paragraph, as:

A) failing to comply with the written description requirement because these claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention; and

B) as failing to comply with the enablement requirement because these claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

7.1.1 In regard to claim 23, although one of ordinary skill at the time the invention was made would fairly and reasonably interpret the written description as describing an invention that would use both a "first coordinate measuring machine/process" and a "second coordinate measuring machine/process" in order to measure the coordinates of a work piece and the reference objects, the written descript clearly fails to provide either (1) a suggestion that a "third coordinate measuring machine/process" may be used; or (2) an adequate written description that would enable one of ordinary skill at the time the invention was made to use an invention that includes the use of a "third coordinate measuring machine/process" as recite in claim 23.

7.1.2 In regard to claims 29-31, although one of ordinary skill at the time the invention was made would fairly and reasonably interpret the written description as describing a suggestion that the invention could use a measurement of the temperature of a work piece and reference object and a value representing the thermal expansion coefficient of the work piece and the reference object, the written descript clearly fails to provide either (1) a suggestion; or (2) an adequate written description that would enable one of ordinary skill at the time the invention was made to use an invention that would include the use of:

A) the coordinate measurement devices in order to measurement of the "temperature of the work piece and movable structure" as recited in claims 29-31;

B) the "coefficient of thermal expansion" as recited in claim 30; and

C) a temperature senor that is attached to the moveable structure in order to measure the temperature as recited in claim 31.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8.1 Claims 23, 29-31 & 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8.1.1 As set forth above in the rejection of claims 23 & 29-31 under 35 U.S.C. 112 1st paragraph, the written description fails to comply with 37 CFR 1.75(d)(1) since the written description fails to describe an invention which includes:

A) the use of a "third coordinate measuring device" and the data/information produced by the "third coordinate measuring device" as recited in claim 23;

B) the coordinate measurement devices in order to measurement of the "temperature of the work piece and movable structure" as recited in claims 29-31;

C) the "coefficient of thermal expansion" as recited in claim 30; and

D) a temperature senor that is attached to the moveable structure in order to measure the temperature as recited in claim 31.

and therefore the claimed subject matter lacks antecedent basis in the written description as required by 37 CFR 1.75(d)(1).

8.1.2 In regard to claim 36, since one of ordinary skill at the time the invention was made would fairly and reasonably interpret the scope and meaning of claim 36 to be identical to the scope and meaning of claim 34, and claim 36 depend from claim 34, then one of ordinary skill at the time the invention was made would fairly and reasonably recognize that claim 36 fails to further limit the invention of claim 34 as required by 35 U.S.C. 112 4th paragraph.

8.1.3 In regard to claim 36, since one of ordinary skill at the time the invention was made would fairly and reasonably interpret the invention of claim 34 to be directed to the statutory class of invention of a "machine" and one of ordinary skill at the time the invention was made would fairly and reasonably interpret the invention of claim 36 to be directed to the statutory class of invention of a "process", then it would be unclear to one of ordinary skill at the time the invention was made why a process claim 36 is dependent from a machine claim 34.

8.2 For the above reasons applicant has failed to particularly and distinctly point out what is regarded as the invention. Claims not explicitly mentioned above, inherent each the described problems through dependency to the explicitly mentioned base claim.

9. The following is a statement of reasons for the indication of allowable subject matter over the prior art:

A) the prior art, for example:

(1) either Reading (2,570,275) or Maidhof et al (2003/0112448 or 7,414,732) disclose a machine/process that provides the useful and beneficial function of a co-ordinate measuring machine that determined the relative location/position/offset and orientation of an object on a reference platform in

which two separate co-ordinate measuring machines/process are used in combination to make co-ordinate measurements that are then correlated in order to determine the relative location/position/offset and orientation of the object on a reference platform.

(2) either Unger et al (3,436,968) or Henderson (Miller) et al (3,513,444) disclose a machine/process that provides the useful and beneficial function of determining the dimensions of an object being conveyed. To this end the height/thickness of the conveyed object and the width/depth of the conveyed object are measured by an appropriate positioned array of pairs of energy sources and corresponding energy detectors where height/thickness of the conveyed object and the width/depth of the conveyed object are measured/determined by determining the number of pairs of energy detectors that are either blocked/occulted or currently detecting energy from the corresponding energy source. Further the length of the conveyed object is determined by measuring the interval/period of time that one or more of the energy detector is blocked/occulted from the corresponding energy source of the pairs of energy sources/detectors. Finally the weight of the conveyed object is determined from an on the fly weighing scale.

(3) Wilder (4,329,060) discloses a machine/process that provides the useful and beneficial function of a co-ordinate measuring machine/process that determines the relative location/position/offset and orientation of an object on a reference platform relative to a reference by using a flying spot scanner to measure at least two separate known points on the object relative to the reference. The measurements are then combined in order to make a determination of the relative location/position/offset of the object to the reference.

(4) Tews et al (4,615,093) discloses a machine/process that provides the useful and beneficial function of a measuring machine/process that determines the relative location/position/offset and orientation of an object relative to a reference by using a flying spot scanner to measure when the object casts a shadow as the spot is canned over the object and the measurements are then combined in order

to make a determination of the relative location/position/offset of the object to the reference.

(5) Kaneda et al (6,973,738) discloses a machine/process that provides the useful and beneficial function of determining the co-ordinates of the cutting edge of a tool by first determining the co-ordinates of the position of the center axis of the tool holding spindle relative to a reference in a co-ordinate system and then determining the offset of the cutting edge of the tool relative to the center axis of the tool. These two determinations are then combined in order to determine the actual position of the cutting edge of the tool in the co-ordinate system.

(6) Seichter et al (7,024,789) discloses a machine/process that provides the useful and beneficial function of providing temperature compensated co-ordinate measurements in which a temperature sensor is used in order to provide temperature data/information upon which the measured co-ordinates will be corrected/compensated in order to provide the correct co-ordinates of the measured point/location.

B) however, the prior art does not fairly teach or suggest in regard to claims 19, 33 & 35 a process in claims 19 & 35 and a machine in claim 33 that provides the useful and beneficial function of determining the co-ordinates of an object or work piece attached to a structure with an attached reference structure by combining separate measurements of the co-ordinates of the object and a reference that have been made by two separate co-ordinate measurement machines/processes in two separate co-ordinate systems, for example a "work piece co-ordinate system" and a "reference co-ordinate system" by providing actions in claims 19 & 35 and structures in claim 33 that perform at least the functions of:

(1) using a first co-ordinate measuring machine/process in order to measure the first co-ordinates of the reference structure in a first co-ordinate system;

(2) using the first co-ordinate measuring machine/process in order to measure the first co-ordinates of the object or work piece in the first co-ordinate system;

(3) using a second co-ordinate measuring machine/process in order to measure the second co-ordinates of the reference structure in a second co-ordinate system;

(4) using the second co-ordinate measuring machine/process in order to measure the second co-ordinates of the object or work piece in the second co-ordinate system; and

(5) determining a set of co-ordinates for the object or work piece that have been derived from (a) the measured first co-ordinates of the reference structure, (b) the measured second co-ordinates of the reference structure, (c) the measured first co-ordinates of the object or work piece, and (d) the measured second co-ordinates of the object or work piece.

Claims 20-32, which depend from claim 19, claims 34 & 36, which depend from claim 33, are allowable over the prior art for the same reason.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward R. Cosimano whose telephone number is 571-272-0571. The examiner can normally be reached on 571-272-0571 from 7:30am to 4:00pm (Eastern Time).

10.1 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow, can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10.2 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ERC
09/13/2008

/Edward Cosimano/
Primary Examiner Unit 2863